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IN THE U.S. PATENT AND TRADEMARK OFFICE

In re U.S. Patent Application of:

APPLICANT: Peter Strong

SERIAL NO.: FILING DATE: Herewith

EXAMINER: ART UNIT:

ATTORNEY'S DOCKET NO.: 008A.0002.U1(US)

TITLE: DATA TRANSMISSION METHOD AND APPARATUS

COMMISSIONER FOR PATENTS

BOX NEW PATENT APPLICATION

WASHINGTON, DC 20231

PRELIMINARY AMENDMENT

Sir:

This Preliminary Amendment is herewith filed in conjunction with the filing of a New U.S. Patent Application that is the National Phase of PCT Application No.: **PCT/GB00/01341**, of which **10 April 1999** is the earliest claimed priority date.

Any fee that may be required to enter this Preliminary Amendment should be attached. However, should the undersigned attorney be mistaken or should there be a fee deficiency, please charge deposit account no.: **50-1924** for the amount of the deficiency.

Please amend the application as shown below.

IN THE CLAIMS:

The amendment to the claims is based on the claims of the International Application as a result of an Article 34 Amendment, as shown in the attachment to the enclosed copy of the International Preliminary Examination Report.

1. (Amended) A method of transmission of data messages between a plurality of stations interconnected by a bus line, wherein each said message includes a frame portion representing content and priority information of the data message and a data portion representing data to be transmitted, the method comprising the steps of causing at least one of said plurality of stations to transmit a data message on to the bus line such that said frame portion thereof is transmitted at a first data transmission rate, and the data portion thereof is transmitted at a second data transmission rate not less than said first data transmission rate, and adjusting at least one of said first data transmission rate and said second data transmission rate in dependence on a signal quality determined following a transmission to at least one further station on said bus line.
2. (Amended) A method according to claim 1, further comprising the step of causing said at least one further station to transmit onto the bus line, an acknowledgment signal indicating receipt of a said data message.
3. (Amended) A method according to claim 2, further comprising the step of causing at least one said station to transmit a further said data message in response to transmission of a said acknowledgment signal.
4. (Amended) A method according to claim 2, further comprising the step of re-transmitting a said message if no acknowledgment signal is received.
9. (Amended) A method according to claim 1, wherein said frame portion contains information representing a station to which the message is directed.
10. (Amended) A method according to claim 1, wherein the frame portion contains information representing the transmit node identification.
11. (Amended) A method according to claim 1, wherein the frame portion contains information representing the size of the corresponding data portion.

12. (Amended) A method according to claim 1, wherein the second data rate is an integral multiple of said first data transmission rate..

13. (Amended) Apparatus for transmitting data messages between a plurality of stations interconnected by a bus line, each of said data messages including a frame portion representing content and priority information of the data message and a data portion representing data to be transmitted, the apparatus comprising:

means for transmitting a data message on said bus line such that said frame portion thereof is transmitted at a first data transmission rate, and said data portion thereof is transmitted at a second data transmission rate not less than said first data transmission rate; and

means for adjusting at least one of said first data transmission rate and said second data transmission rate in dependence on a signal quality determined for transmission on said bus line.

14. (Amended) Apparatus according to claim 13, further comprising means responsive to receiving a data message to transmit an acknowledgment signal on said bus line.

15. (Amended) Apparatus according to claim 13, further comprising means responsive to an acknowledgment signal to transmit a further said data message.

16. (Amended) Apparatus according to claim 14, further comprising means for re-transmitting a message if no acknowledgment signal is received.

18. (Amended) Apparatus according to claim 17, further comprising means for adjusting at least one of said first data transmission rate and said second data transmission rate in dependence on the frequency of generation of said error messages.

22. (Amended) Apparatus according to claim 13, further comprising a received signal strength measurement unit for measuring signal strength of a received data message.

24. (Amended) Apparatus according to claim 21, further comprising processing means for adjusting at least one of said first data transmission rate and said second data transmission rate in dependence on the content of said error register.

25. (Amended) Apparatus according to claim 23, further comprising processing means for adjusting at least one of said first data transmission rate and said second data transmission rate in dependence on the content of said signal strength register.

26. (Amended) Apparatus according to claim 13, further comprising:

means for determining whether a data message comprises an error;
an error register for holding a value indicative of the level of received messages comprising an error;
a received signal strength measurement unit for measuring signal strength of a received data message;
a signal strength register for holding a value representative of received signal strength;
and
processing means configured to adjust at least one of said first data transmission rate and said second data transmission rate in dependence on the content of said error register and said signal strength register.

27. (Amended) Apparatus according to claim 13, wherein said frame portion contains information representing a station to which the message is directed.

28. (Amended) Apparatus according to claim 13, wherein the frame portion contains information regarding the transmit node identification.

29. (Amended) Apparatus according to claim 13, wherein the frame portion contains information representing the size of a corresponding data portion.

30. (Amended) Apparatus according to claim 13, wherein the second data transmission rate is an integral multiple of said first data transmission rate

30. (Amended) Apparatus according to claim 14, further comprising means responsive to an acknowledgment signal to transmit a further said data message.

31. (Amended) A method according to claim 1, wherein the method is executed by at least one processor configured for operation under control of instructions embodying computer program means.

32. (Amended) A method according to claim 31, wherein said computer program means comprises a portion of a computer program carrier medium.

33. (Amended) A method according to claim 32, wherein said computer program carrier medium comprises one of a magnetic storage medium, optical storage medium, solid state storage medium or communications carrier medium.

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REMARKS

The claims have been amended to remove multiple dependencies, the term "and/or", and to generally improve their readability. No new matter is entered. A favorable consideration that results in the allowance of claims 1-33 is earnestly solicited.

Respectfully submitted:



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09/28/01

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ADDED PAGES TO SHOW CHANGES MADE

In the Claims:

Amend the claims as shown below.

1. (Amended) A method of transmission of data messages between a plurality of stations interconnected by a bus line, wherein each said message includes a frame portion representing content and priority information of the data message and a data portion representing data to be transmitted, the method comprising the steps of causing at least one ~~of said station~~ plurality of stations to transmit a data message on to the bus line such that said frame portion thereof is transmitted at a first data transmission rate, and the data portion thereof is transmitted at a second data transmission rate not less than said first data transmission rate, and adjusting at least one of said first data transmission rate ~~and/or~~ and said second data transmission rate in dependence on a signal quality determined following a transmission to at least one further station on said bus line.

2. (Amended) A method according to claim 1, further comprising the step of causing said at least one further station to transmit onto the bus line, an ~~acknowledgement~~ acknowledgment signal indicating receipt of a said data message.

3. (Amended) A method according to claim 2, further comprising the step of causing at least one said station to transmit a further said data message in response to transmission of a said ~~acknowledgement~~ acknowledgment signal.

4. (Amended) A method according to claim 2 ~~or 3~~, further comprising the step of re-transmitting a said message if no ~~acknowledgement~~ acknowledgment signal is received.

9. (Amended) A method according to ~~any one of the preceding claims~~ claim 1, wherein said frame portion contains information representing a station to which the message is directed.

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10. (Amended) A method according to ~~any one of the preceding claims~~ claim 1, wherein the frame portion contains information representing the transmit node identification.

11. (Amended) A method according to ~~any one of the preceding claims~~ claim 1, wherein the frame portion contains information representing the size of the corresponding data portion.

12. (Amended) A method according to ~~any one of the preceding claims~~ claim 1, wherein the second data rate is an integral multiple of said first data transmission rate..

13. (Amended) Apparatus for transmitting data messages between a plurality of stations interconnected by a bus line, each of said data messages including a frame portion representing content and priority information of the data message and a data portion representing data to be transmitted, the apparatus comprising:

means for transmitting a data message on said bus line such that said frame portion thereof is transmitted at a first data transmission rate, and said data portion thereof is transmitted at a second data transmission rate not less than said first data transmission rate; and

means for adjusting at least one of said first data transmission rate ~~and/or~~ and said second data transmission rate in dependence on a signal quality determined for transmission on said bus line.

14. (Amended) Apparatus according to claim 13, further comprising means responsive to receiving a data message to transmit an ~~acknowledgement~~ acknowledgment signal on said bus line.

15. (Amended) Apparatus according to claim 13 ~~or 14~~, further comprising means responsive to an ~~acknowledgement~~ acknowledgment signal to transmit a further said data message.

16. (Amended) Apparatus according to ~~any one of claims 13 to 15~~ claim 14, further comprising means for re-transmitting a message if no ~~acknowledgement~~ acknowledgment signal is received.

18. (Amended) Apparatus according to claim 17, further comprising means for adjusting at least one of said first data transmission rate ~~and/or~~ and said second data transmission rate in dependence on the frequency of generation of said error messages.

22. (Amended) Apparatus according to claim 13 ~~or any one of claims 19 to 21~~, further comprising a received signal strength measurement unit for measuring signal strength of a received data message.

24. (Amended) Apparatus according to claim 21, further comprising processing means for adjusting at least one of said first data transmission rate ~~and/or~~ and said second data transmission rate in dependence on the content of said error register.

25. (Amended) Apparatus according to claim 23, further comprising processing means for adjusting at least one of said first data transmission rate ~~and/or~~ and said second data transmission rate in dependence on the content of said signal strength register.

26. (Amended) Apparatus according to claim ~~25 and 24~~ 13, further comprising:

means for determining whether a data message comprises an error;

an error register for holding a value indicative of the level of received messages comprising an error;

a received signal strength measurement unit for measuring signal strength of a received data message;

a signal strength register for holding a value representative of received signal strength;
and

said processing means configured to adjust at least one of said first data transmission rate and/or and said second data transmission rate in dependence on the content of said error

register and said signal strength register.

27. (Amended) Apparatus according to ~~any one of claims 13 to 26~~ claim 13, wherein said frame portion contains information representing a station to which the message is directed.

28. (Amended) Apparatus according to ~~any one of claims 13 to 27~~ claim 13, wherein the frame portion contains information regarding the transmit node identification.

29. (Amended) Apparatus according to ~~any one of claims 13 to 28~~ claim 13, wherein the frame portion contains information representing the size of a corresponding data portion.

30. (Amended) Apparatus according to ~~any one of claims 13 to 29~~ claim 13, wherein the second data transmission rate is an integral multiple of said first data transmission rate

31. (Amended) A method according to claim 1, wherein the method is executed by at least one processor configured for operation under control of instructions embodying computer program comprising computer program means for configuring a processor to operate in accordance with any one of claims 1 to 12.

32. (Amended) A method according to claim 31, wherein said computer program means comprises a portion of a computer program carrier medium, comprising a computer program according to claim 31.

33. (Amended) A method according to claim 32, wherein said computer program carrier medium according to claim 32, comprising comprises one of a magnetic storage medium, optical storage medium, solid state storage medium or communications carrier medium.

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